

CLAIMS

We claim:

1. A corrosion-inhibited fire retardant composition comprising:
 - at least one fire retardant comprised of at least one ammonium polyphosphate;
 - 5 at least one biopolymer having a particle size diameter less than about 100 microns; and
 - a corrosion inhibiting system comprised of at least one corrosion inhibiting compound selected from a group of corrosion inhibiting compounds
- 10 consisting of azoles, insoluble ferric pyrophosphate, soluble ferric pyrophosphate, ferrous oxalate, ferric citrate, ferrous sulfate, ferric ammonium citrate, soluble ferric orthophosphate, insoluble ferric orthophosphate, ferric ammonium oxalate, ferric ammonium sulfate, ferric bromide, ferric sodium oxalate, ferric stearate, ferric sulfate, ferrous acetate, ferrous ammonium sulfate, ferrous bromide, ferrous gluconate, ferrous iodide, ferric acetate, ferric fluoroborate, ferric hydroxide, ferric oleate, ferrous fumarate, ferrous oxide, ferric lactate, ferric resinate, and any combination thereof;
- 15 wherein said corrosion inhibiting system is present in a minor amount effective to substantially reduce corrosiveness of said fire retardant composition.
- 20 2. The composition of claim 1 wherein said azole is at least one azole selected from a group of azoles including tolytriazole, benzotriazole, mercaptobenzothiazole, dimercaptothiadiazole, 1,2 benzisothiazoline-3-1, 2-benzimidazolone, 4,5,6,7-tetrahydrobenzotriazole, tolylimidazole, 2-(5-ethyl-2-pyridyl) benzimidazole, phthalimide, any alkali metal salts thereof and
- 25 combinations thereof.

3. The composition of claim 1 further comprising at least one additive selected from a group of additives consisting of suspending agents, fugitive coloring agents, non-fugitive coloring agents, surfactants, stabilizers, corrosion inhibitors, opacifying pigments and any combination thereof.
5. The composition of claim 1 wherein said corrosion inhibitor is at least one azole and said azole is present in said corrosion-inhibited fire retardant composition, in concentrate, in a minor amount effective to obtain a maximum corrosivity of yellow brass to a maximum of 5.0 mils per year, as determined by the "Uniform Corrosion" test set forth in Section 4.5.6.1 of "Specification 5100-10 304b (January 2000) Superseding Specification 5100-00304a (February 1986)," entitled "Specification for Long Term Retardant, Wildland Fire, Aircraft or Ground Application," issued by the United States Department of Agriculture, Forest Service.
15. The composition of claim 1 wherein said coloring agent is at least one coloring agent selected from a group of coloring agents consisting of fugitive coloring agents, opacifying pigments, and highly colored coloring agents.
6. The composition of claim 3 wherein said suspending agent is at least one suspending agent selected from a group of suspending agents consisting of attapulgus, sepiolite, fuller's earth, montmorillonite, and kaolin clay.
20. The composition of claim 1 wherein said corrosion inhibiting system is comprised of at least one soluble corrosion inhibiting compound and at least one insoluble corrosion inhibiting compound.
8. The composition of claim 1 wherein said corrosion inhibiting system is present in a minor amount effective in said corrosion-inhibited fire retardant composition, in concentrate, to obtain at least one of a maximum corrosivity to
- 25.

aluminum of 5.0 mils per year per year, yellow brass of 5.0 mils per year, and steel of 5.0 mils per year, as determined by the "Uniform Corrosion" test set forth in Section 4.5.6.1 of "Specification 5100-304b (January 2000) Superseding Specification 5100-00304a (February 1986)," entitled "Specification for Long

- 5 Term Retardant, Wildland Fire, Aircraft or Ground Application," issued by the United States Department of Agriculture, Forest Service.

9. The composition of claim 1 further comprising water.

10. The composition of claim 1 wherein said corrosion inhibiting system comprises in the range of about .01% to about 10% of said corrosion-inhibited fire

- 10 retardant composition.

11. The composition of claim 1 wherein said corrosion inhibiting system comprises in the range of about .30% to about 6.0% of said corrosion-inhibited fire retardant composition.

12. The composition of claim 1 wherein said corrosion inhibiting system

- 15 comprises in the range of about 0.6% to about 5.0% of said corrosion-inhibited fire retardant composition.

13. The composition of claim 1 comprising in the range of about .01% to about 5.0% said biopolymer.

14. The composition of claim 1 comprising in the range of about 1.0% said

- 20 biopolymer.

15. The composition of claim 1 further comprising at least one guar biopolymer.

16. The composition of claim 1 wherein said biopolymer is at least one

biopolymer selected from a group of biopolymers consisting of rhamsan, xanthan and welan biopolymers.

17. The composition of claim 16 wherein said biopolymer is at least one xanthan biopolymer.
18. The composition of claim 17 wherein said xanthan biopolymer comprises about 1% of said corrosion-inhibited fire retardant composition.
- 5 19. The composition of claim 1 comprising in the range of about 2% to about 3% ferric pyrophosphate.
20. The composition of claim 1 comprising in the range of about 2% to about 3% ferric pyrophosphate and about 1% xanthan biopolymer.
- 10 21. The composition of claim 1 comprising in the range of about 1% to about 2% iron oxide, about 2% to about 3% ferric pyrophosphate, about 1% xanthan biopolymer, about 1% to about 2% attapulgus clay, and about .01% to about 1% tolytriazole.
22. A corrosion-inhibited fire retardant composition comprising:
at least one fire retardant comprised of at least one ammonium
15 polyphosphate;
- attapulgus clay;
- at least one xanthan biopolymer having a particle size less than about 100 microns;
- at least one additive selected from a group of additives consisting of
20 suspending agents, coloring agents, surfactants, stabilizers, corrosion inhibitors, opacifying pigments and any combination thereof; and
- a corrosion inhibiting system comprised of at least one corrosion inhibiting compound selected from a group of corrosion inhibiting compounds consisting of azoles, insoluble ferric pyrophosphate, soluble ferric pyrophosphate,
25 ferrous oxalate, ferric citrate, ferrous sulfate, ferric ammonium citrate, soluble

- ferric orthophosphate, insoluble ferric orthophosphate, ferric ammonium oxalate, ferric ammonium sulfate, ferric bromide, ferric sodium oxalate, ferric stearate, ferric sulfate, ferrous acetate, ferrous ammonium sulfate, ferrous bromide, ferrous gluconate, ferrous iodide, ferric acetate, ferric fluoroborate, ferric oleate, ferrous fumarate, ferrous oxide, ferric lactate, ferric resinate, and any combination thereof;
- wherein said corrosion inhibiting system is present in a minor amount effective to reduce corrosiveness of said ammonium polyphosphate to a maximum corrosivity to aluminum of 5.0 mils per year, as determined by the "Uniform Corrosion" test set forth in Section 4.5.6.1 of "Specification 5100-304b (January 2000) Superseding Specification 5100-00304a (February 1986)," entitled "Specification for Long Term Retardant, Wildland Fire, Aircraft or Ground Application," issued by the United States Department of Agriculture, Forest Service; and
- wherein said biopolymer comprises in the range of about 0.01% to about 5.0% of said fire retardant composition.
23. A method of preparing a corrosion-inhibited fire retardant composition, adapted for aerial application to wildland fires, the method comprising the steps of:
- 20 (a) forming an intermediate concentrate composition comprising:
 (i) a fire retardant composition comprised of at least one ammonium polyphosphate;
 (ii) a corrosion inhibiting system comprised of at least one corrosion inhibiting compound selected from a group of corrosion inhibiting compounds consisting of azoles, insoluble ferric pyrophosphate, soluble ferric

pyrophosphate, ferrous oxalate, ferric citrate, ferrous sulfate, ferric ammonium citrate, soluble ferric orthophosphate, insoluble ferric orthophosphate, ferric ammonium oxalate, ferric ammonium sulfate, ferric bromide, ferric sodium oxalate, ferric stearate, ferric sulfate, ferrous acetate, ferrous ammonium sulfate,

- 5 ferrous bromide, ferrous gluconate, ferrous iodide, ferric fluoroborate, ferric hydroxide, ferric hydroxide, ferric oleate, ferrous fumarate, ferrous oxide, ferric lactate, ferric resinate, and any combination thereof; and

at least one biopolymer having a particle size less than about 100 microns, wherein said corrosion inhibiting system is present in a minor amount effective

- 10 to substantially reduce corrosiveness of said fire retardant composition; and

(b) diluting said intermediate concentrate with water to form said corrosion-inhibited fire retardant composition.

24. The method of claim 23 wherein said azole is at least one azole selected from a group of azoles including tolytriazole, benzotriazole, mercaptobenzothiazole,

- 15 dimercaptomthiadiazole, 1,2 benzisothiazoline-3-1, 2-benzimidazolone, 4,5,6,7-tetrahydrobenzotriazole, tolylimidazole, 2-(5-ethyl-2-pyridyl) benzimidazole, phthalimide, any alkali metal salts thereof and combinations thereof.

25. The method of claim 23 wherein said corrosion inhibiting system is comprised of at least one soluble corrosion inhibiting compound and at least one

- 20 insoluble corrosion inhibiting compound.

26. The method of claim 23 wherein said intermediate concentrate composition further comprises at least one additive selected from a group of additives consisting of suspending agents, coloring agents, surfactants, stabilizers, corrosion inhibitors, opacifying pigments and any combination thereof.

27. The method of claim 23 wherein said corrosion inhibiting system comprises at least one azole and said azole is present in said corrosion-inhibited fire retardant composition, in concentrate, in a minor amount effective to obtain a maximum corrosivity to yellow brass of 5.0 mils per year, as determined by the
- 5 "Uniform Corrosion" test set forth in Section 4.5.6.1 of "Specification 5100-304b (January 2000) Superseding Specification 5100-00304a (February 1986)," entitled "Specification for Long Term Retardant, Wildland Fire, Aircraft or Ground Application," issued by the United States Department of Agriculture, Forest Service.
- 10 28. The method of claim 23 wherein said corrosion inhibiting system is present in a minor amount effective to reduce the corrosiveness of said fire retardant composition, in concentrate, to at least one of a maximum corrosivity to aluminum of 5.0 mils per year, brass of 5.0 mils per year and steel of 5.0 mils per year, as determined by the "Uniform Corrosion" test set forth in Section 4.5.6.1
- 15 of "Specification 5100-304b (January 2000) Superseding Specification 5100-00304a (February 1986)," entitled "Specification for Long Term Retardant, Wildland Fire, Aircraft or Ground Application," issued by the United States Department of Agriculture, Forest Service.
- 20 29. The method of claim 23 wherein said intermediate concentrate composition is diluted such that a maximum corrosivity of aluminum is 2.0 mils per year and the maximum corrosivity of brass and steel is 2.0 mils per year when tested in the totally immersed condition and 5.0 mils per year when tested in the partially immersed condition, as specified and determined by the "Uniform Corrosion" test set forth in Section 4.5.6.1 of "Specification 5100-304b (January 2000)"
- 25 Superseding Specification 5100-00304a (February 1986)," entitled "Specification

for Long Term Retardant, Wildland Fire, Aircraft or Ground Application," issued by the United States Department of Agriculture, Forest Service.

30. The method of claim 23 wherein said coloring agent is at least one coloring agent selected from a group of coloring agents consisting of fugitive coloring
5 agents, opacifying pigments, and highly colored coloring agents.
31. The method of claim 26 wherein said suspending agent is at least one suspending agent selected from a group of suspending agents consisting of attapulgus clay, sepiolite, fuller's earth, montmorillonite, and kaolin clay.
32. The method of claim 23 wherein said fire retardant composition comprises in
10 the range of about .01% to about 5.0% said biopolymer.
33. The method of claim 23 wherein said fire retardant composition comprises in the range of about 1.0% said biopolymer.
34. The method of claim 23 wherein said fire retardant composition further comprises at least one guar biopolymer.
- 15 35. The method of claim 23 wherein said biopolymer is at least one biopolymer selected from a group consisting of a xanthan rhamsan and welan biopolymers.
36. The method of claim 35 wherein said biopolymer is a xanthan biopolymer.
37. The method of claim 36 wherein said xanthan biopolymer comprises about
1% of said corrosion-inhibited fire retardant composition.
- 20 38. The method of claim 23 wherein said step of forming an intermediate concentrate comprises forming a concentrate comprising in the range of about 2% to about 3% ferric pyrophosphate.
39. The method of claim 23 wherein said step of forming an intermediate
concentrate comprises forming a concentrate comprising in the range of about 2%
25 to about 3% ferric pyrophosphate and about 1% xanthan biopolymer.

40) The method of claim 23 wherein said step of forming an intermediate concentrate comprises forming a concentrate comprising in the range of about 1% to about 2% iron oxide, about 2% to about 3% ferric pyrophosphate, about 1% xanthan biopolymer, about 2% attapulgus clay, and about .01% to about 1% 5 tolytriazole.

41) A method of preparing a corrosion-inhibited fire retardant composition, adapted for aerial application to wildland fires, the method comprising the steps of:

- (a) forming an intermediate concentrate composition comprising:
 - 10 (i) at least one fire retardant comprised of at least one ammonium polyphosphate;
 - (ii) attapulgus clay;
 - (iii) a corrosion inhibiting system comprised of at least one corrosion inhibiting compound selected from a group of corrosion inhibiting 15 compounds consisting of azole, insoluble ferric pyrophosphate, soluble ferric pyrophosphate, insoluble ferrous oxalate, soluble ferric citrate, soluble ferrous sulfate, insoluble ferric ammonium citrate, insoluble ferric orthophosphate, soluble ferric orthophosphate, ferric ammonium oxalate, ferric ammonium sulfate, ferric bromide, ferric sodium oxalate, ferric stearate, ferric sulfate, ferrous 20 acetate, ferrous ammonium sulfate, ferrous bromide, ferrous gluconate, ferrous iodide, ferric fluoroborate, ferric hydroxide, ferric oleate, ferrous fumarate, ferrous oxide, ferric lactate, ferric resinate, and any combination thereof; and
 - at least one xanthan biopolymer having a particle size of less than about 100 microns;

wherein said corrosion inhibiting system is present in a minor amount effective to reduce the corrosiveness of said fire retardant composition, in concentrate, to aluminum of 5.0 mils per year, as determined by the "Uniform Corrosion" test set forth in Section 4.5.6.1 of "Specification 5100-304b (January 2000)

- 5 Superseding Specification 5100-00304a (February 1986)," entitled "Specification for Long Term Retardant, Wildland Fire, Aircraft or Ground Application," issued by the United States Department of Agriculture, Forest Service; and wherein said fire retardant composition comprises in the range of about .01% to about 5.0% said xanthan biopolymer prior to dilution; and

- 10 (b) diluting said intermediate concentrate with water to form said corrosion-inhibited fire retardant composition such that a maximum corrosivity of aluminum is 2.0 mils per year, as determined by the "Uniform Corrosion" test set forth in Section 4.5.6.1 of "Specification 5100-304b (January 2000)"
Superseding Specification 5100-00304a (February 1986)," entitled "Specification
15 for Long Term Retardant, Wildland Fire, Aircraft or Ground Application," issued by the United States Department of Agriculture, Forest Service.

42. A method of suppressing wildland fires comprising aerially applying to wildland vegetation a fire suppressing composition comprising:

- water; and
20 a corrosion-inhibited fire retardant composition comprising:
 at least one fire retardant composition comprised of at least one ammonium polyphosphate;
 at least one biopolymer having a particle size of less than about 100 microns;
25 and

- a corrosion inhibiting system comprising at least one corrosion inhibiting compound selected from a group of corrosion inhibiting compounds consisting of azoles, insoluble ferric pyrophosphate, soluble ferric pyrophosphate, ferrous oxalate, ferric citrate, ferrous sulfate, ferric ammonium citrate, soluble ferric
- 5 orthophosphate, insoluble ferric orthophosphate, ferric ammonium oxalate, ferric ammonium sulfate, ferric bromide, ferric sodium oxalate, ferric stearate, ferric sulfate, ferrous acetate, ferrous ammonium sulfate, ferrous bromide, ferrous gluconate, ferrous iodide, ferric acetate, ferric fluoroborate, ferric hydroxide, ferric oleate, ferrous fumarate, ferrous oxide, ferric lactate, ferric resinate, and any
- 10 combination thereof;
- wherein said corrosion inhibiting system is present in a minor amount effective to substantially reduce the corrosiveness of said fire retardant composition.
- (43) The method of claim 42 wherein said azole is at least one azole selected from a group of azoles including tolytriazole, benzotriazole, mercaptobenzothiazole,
- 15 dimercaptomthiadiazole, 1,2 benzisothiazoline-3-1, 2-benzimidazolone, 4,5,6,7-tetrahydrobenzotriazole, tolylimidazole, 2-(5-ethyl-2-pyridyl) benzimidazole, phthalimide, any alkali metal salts thereof and combinations thereof.
- (44) The method of claim 42 further comprising at least one additive selected from a group of additives consisting of suspending agents, coloring agents, surfactants,
- 20 stabilizers, corrosion inhibitors, opacifying pigments, and any combination thereof.
- (45) The method of claim 42 wherein said corrosion inhibitor is at least one azole and said azole is present in said corrosion-inhibited fire retardant composition, in concentrate, in a minor amount effective to obtain a corrosivity to yellow brass of
- 25 a maximum of 5.0 mils per year, as determined by the "Uniform Corrosion" test

set forth in Section 4.5.6.1 of "Specification 5100-304b (January 2000)

Superseding Specification 5100-00304a (February 1986)," entitled "Specification for Long Term Retardant, Wildland Fire, Aircraft or Ground Application," issued by the United States Department of Agriculture, Forest Service.

- 5 (46) The method of claim 42 wherein said coloring agent is at least one coloring agent selected from a group of coloring agents consisting of fugitive coloring agents, opacifying pigments and highly colored colorants.
- (47) The method of claim 44 wherein said suspending agent is at least one selected from a group of suspending agents consisting of attapulgus clay, sepiolite, fuller's earth, montmorillonite, and kaolin clay.
- 10 (48) The method of claim 42 wherein said corrosion inhibiting system is comprised of at least one soluble corrosion inhibiting compound and at least one insoluble corrosion inhibiting compound.
- (49) The method of claim 42 wherein said corrosion inhibiting system is present in a minor amount effective to reduce the corrosiveness of said fire retardant composition, in concentrate, to at least one of a maximum corrosivity to aluminum of 5.0 mils per year, brass of 5.0 mils per year, and steel of 5.0 mils per year, as determined by the "Uniform Corrosion" test set forth in Section 4.5.6.1 of "Specification 5100-304b (January 2000) Superseding Specification 20 5100-00304a (February 1986)," entitled "Specification for Long Term Retardant, Wildland Fire, Aircraft or Ground Application," issued by the United States Department of Agriculture, Forest Service.
- (50) The method of claim 42 wherein said corrosion inhibiting system comprises in the range of about .01% to about 10.0% of said corrosion-inhibited fire retardant composition.

51. The method of claim 42 wherein said corrosion inhibiting system comprises in the range of about .30% to about 6.0% of said corrosion-inhibited fire retardant composition.
52. The method of claim 42 wherein said corrosion inhibiting system comprises 5 in the range of about .60% to about 5.0% of said corrosion-inhibited fire retardant composition.
53. The method of claim 42 wherein said corrosion-inhibited fire retardant composition comprises in the range of about .01% to about 5.0% said biopolymer.
54. The method of claim 53 wherein said corrosion-inhibited fire retardant 10 composition comprises in the range of about 1.0% said biopolymer.
55. The method of claim 42 wherein said biopolymer is at least one biopolymer selected from a group consisting of xanthan, rhamsan and welan biopolymers.
56. The method of claim 42 wherein said corrosion-inhibited fire retardant composition further comprises at least one guar biopolymer.
57. The method of claim 55 wherein said biopolymer is a xanthan biopolymer.
58. The method of claim 57 wherein said xanthan biopolymer comprises about 1% said corrosion-inhibited fire retardant composition.
59. The method of claim 42 wherein said step of aerially applying a fire suppressing composition comprises aerially applying a fire suppressing 20 composition comprising in the range of about 2% to about 3% ferric pyrophosphate.
60. The method of claim 42 wherein said step of aerially applying a fire suppressing composition comprises applying a fire suppressing composition comprising in the range of about 2% to about 3% ferric pyrophosphate and about 25 1% biopolymer.

61. The method of claim 42 wherein said step of aerially applying a fire suppressing composition comprises applying a fire suppressing composition comprising in the range of about 1% to about 2% iron oxide, about 2% to about 3% ferric pyrophosphate, about 1% xanthan biopolymer, about 2% attapulgus clay, and about .01% to about 1% tolytriazole.
62. A method of suppressing wildland fires comprising aerially applying to wildland vegetation a fire suppressing composition comprising:
- water; and
- 10 a corrosion-inhibited polyphosphate composition comprising:
 at least one ammonium polyphosphate,
 attapulgus clay,
 in the range of about .01% to about 5.0% at least one xanthan gum having
 a particle size less than 100 microns,
- 15 at least one additive selected from a group of additives consisting of
 coloring agents, surfactants, stabilizers, corrosion inhibitors, and any
 combination thereof; and
 a corrosion inhibiting system comprised of at least one corrosion
 inhibiting compound selected from a group of corrosion inhibiting compounds
20 consisting of insoluble ferric pyrophosphate, soluble ferric pyrophosphate, ferrous
 oxalate, ferric citrate, ferrous sulfate, ferric ammonium citrate, soluble ferric
 orthophosphate, insoluble ferric orthophosphate, ferric ammonium oxalate, ferric
 ammonium sulfate, ferric bromide, ferric sodium oxalate, ferric stearate, ferric
 sulfate, ferrous acetate, ferrous ammonium sulfate, ferrous bromide, ferrous
 gluconate, ferrous iodide, ferric acetate, ferric fluoroborate, ferric hydroxide, ferric

oleate, ferrous fumarate, ferrous oxide, ferric lactate, ferric resinate and any combination thereof;

wherein said corrosion inhibiting system is present in a minor amount effective to reduce corrosiveness to said ammonium polyphosphate, in concentrate, to a

5 maximum corrosivity to aluminum of 5.0 mils per year, as determined by the "Uniform Corrosion" test set forth in Section 4.5.6.1 of "Specification 5100-304b (January 2000) Superseding Specification 5100-00304a (February 1986)," entitled "Specification for Long Term Retardant, Wildland Fire, Aircraft or Ground Application," issued by the United States Department of Agriculture, Forest

10 Service.

63. A method of inhibiting corrosion comprising:

providing a corrodible material; and

contacting said corrodible material with a composition for inhibiting corrosion comprising at least one biopolymer having a particle size less than about 100 microns and an effective amount of a corrosion inhibiting system comprised of at least one corrosion inhibiting compound selected from a group of corrosion inhibiting compounds consisting of azoles, insoluble ferric pyrophosphate, soluble ferric pyrophosphate, ferrous oxalate, ferric citrate, ferrous sulfate, ferric ammonium citrate, soluble ferric orthophosphate, insoluble ferric

20 orthophosphate, ferric ammonium oxalate, ferric ammonium sulfate, ferric bromide, ferric sodium oxalate, ferric stearate, ferric sulfate, ferrous acetate, ferrous ammonium sulfate, ferrous bromide, ferrous gluconate, ferrous iodide, ferric acetate, ferric fluoroborate, ferric hydroxide, ferric oleate, ferrous fumarate, ferrous oxide, ferric lactate, ferric resinate and any combination thereof.

64. The method of claim 63 wherein said azole is at least one azole selected from a group of azoles including tolytriazole, benzotriazole, mercaptobenzothiazole, dimercaptomthiadiazole, 1,2 benzisothiazoline-3-1, 2-benzimidazolone, 4,5,6,7-tetrahydrobenzotriazole, tolylimidazole, 2-(5-ethyl-2-pyridyl) benzimidazole, 5 phthalimide, any alkali metal salts thereof and combinations thereof.
65. The method of claim 63 wherein said corrosion inhibiting system is comprised of at least one soluble corrosion inhibiting compound and at least one insoluble corrosion inhibiting compound.
66. The method of claim 63 wherein said corrosion inhibiting system further comprises at least one additive selected from a group of additives consisting of suspending agents, coloring agents, opacifying pigments, surfactants, stabilizers, corrosion inhibitors, and any combination thereof.
67. The method of claim 63 wherein said corrodible material is at least one material selected a group of corrodible materials consisting of steel, brass and aluminum.
68. The method of claim 63 wherein said corrosion inhibiting system further comprises water.
69. The method of claim 66 wherein said suspending agent is at least one selected from a group of suspending agents consisting of attapulgus clay, Fuller's 20 earth, montmorillonite, sepiolite and kaolin clay.
70. The method of claim 63 wherein said step of contacting said corrodible material with at one biopolymer comprises contacting in the range of about .01% to about 5.0% of said biopolymer is contacted with said corrodible material.
71. The method of claim 70 wherein about 1.0% of said biopolymer is contacted 25 with said corrodible material.

- 72) The method of claim 63 wherein said biopolymer is at least one biopolymer selected from a group including xanthan, rhamsan and welan biopolymers.
- 73) The method of claim 63 whereby no guar gum is contacted with said corrodible material.
- 5 74) The method of claim 72 wherein said biopolymer is a xanthan biopolymer.
- 75) The method of claim 74 wherein said step of contacting said corrodible material with said composition comprises contacting said material with said composition, wherein said xanthan biopolymer comprises about 1% of said composition.
- 10 76) The method of claim 63 wherein said step of contacting said corrodible material with said composition comprises contacting said material with said composition, wherein said composition comprises in the range of about 2% to about 3% ferric pyrophosphate.
- 77) The method of claim 63 wherein said step of contacting said corrodible material with said composition comprises contacting said material with said composition, wherein said composition comprises in the range of about 2% to about 3% ferric pyrophosphate and about 1% xanthan biopolymer.
- 15 78) The method of claim 63 wherein said step of contacting said corrodible material with said composition comprises contacting said material with said composition, wherein said composition comprises about 1% to about 2% iron oxide, about 2% to about 3% ferric pyrophosphate, about 1% xanthan biopolymer, about 1% to about 2% attapulgus clay, and about .01% to about 1% tolytriazole.
- 79) A method of inhibiting corrosion comprising: providing a corrodible material, and contacting said corrodible material with a composition for inhibiting corrosion comprising in the range of about .01% to about 5.0% at least one
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xanthan gum having a particle size less than 100 microns and an effective amount of a corrosion inhibiting system comprised of ferric pyrophosphate.

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